REMARKS

Applicants respectfully request that the above-identified application be reexamined.

The final Office Action mailed on October 6, 2005 ("Office Action") rejected Claims 1-40. Specifically, the Office Action rejected Claim 23 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Office Action also rejected Claims 1-19 under 35 U.S.C. § 103(a) as being unpatentable over Warman et al., U.S. Patent No. 5,657,221 (hereinafter "Warman") in view of Humpleman et al., U.S. Patent No. 6,466,971 B1 (hereinafter "Humpleman"). The Office Action also rejected Claim 29 under 35 U.S.C. § 103(a) as being unpatentable over Warman. The Office Action further rejected Claims 20-28 and 30-40 under 35 U.S.C. § 102(b) as being anticipated by Warman.

Applicants thank the Examiner for the telephone interview occurred on December 9, 2005. According to discussions during the telephone interview, applicants have amended the claims according to the proposed amendments agreed to by the Examiner. The amendments clarify specific claim terms with information that has already been disclosed in the patent specification. Therefore, the amendments do not add new subject matter to the patent application. For the reasons hereinafter set forth, applicants respectfully submit that the rejection of the claims, as amended, in view of the teachings of the cited references, should be withdrawn and this application be allowed.

Prior to discussing in detail why applicants believe that all of the claims in the application are allowable over the applied references, a brief description of applicants' invention and the cited references is provided. The following discussions of the disclosed embodiments of applicants' invention and the teachings of the applied references are not provided to define the scope or interpretation of any of applicants' claims. Instead, such discussed differences are

MLTC\17992AM1.DOC

provided to help the U.S. Patent and Trademark Office better appreciate important claim distinctions discussed thereafter.

I. Summary of the Invention

Embodiments of the invention provide a graphical control system for creating and operating decomposable visual components ("DVCs") in a visual networking operating system ("VNOS"). The DVCs may be related to system elements such as computing devices, non-computing devices and software applications or programs that may be controlled by, observed by and/or manipulated by the DVCs. One aspect of the invention provides a method for creating decomposable visual components in the visual networking operating system. The method includes providing an inventory of visual component objects that can be used to instantiate DVCs. A visual component object may define the visual representation, operations, and data for a system component. A visual component object may be decomposed into one or more sub-visual component objects. The instantiated DVCs can be configured while their operation is displayed in a user interface. Preferably, multiple DVCs are instantiated and connected such that a value in one DVC may be communicated to another DVC.

Another aspect of the invention provides a user-modifiable DVC. The modifications are communicated to one or more target DVCs within the VNOS system. The target DVC(s) detects the modifications and effectuates a corresponding change in the target DVC(s).

As can be readily appreciated from the foregoing summary, embodiments of the invention provide a graphical control system for creating and manipulating DVCs representing system elements and the relationships between those elements. The graphical control system eliminates the need for custom coding when communicating or observing changes in a system element. In addition, the graphical control system employs an efficient object-oriented paradigm that can be used to build complex and/or decomposable visual components.

MLTC\17992AM1.DOC

II.   Summary of References Cited

A.   Summary of Warman

Warman discloses a graphical control system for controlling non-computer system devices. Non-computer system devices include any electronic device equipped with the necessary hardware to be either directly or indirectly controlled by a computer, including a simple on/off switch. Such devices include musical amplifiers and equalizers, television sets, VCRs, video cameras, etc.

In Warman, the graphical control system includes a computer, and a device interface for each non-computer system device having at least one feature control. The graphical control system also includes a coupling medium for coupling the computer to the device interface and a visual network operating system ("VNOS"). The device interface connects the non-computer system device to the coupling medium and provides a mechanism for converting commands generated by the computer into signals for controlling the operation of the non-computer system device. Warman discloses that the device interface is a hardware interface comprising an I/O board and a processor board allowing the device to be directly connected to a bus network for transmitting communications from and to the device.

In Warman, the VNOS is a distributed operating system that is partially stored in the computer and partially stored in the device interface. The computer portion of the VNOS causes the computer to generate or create visual device controls that visually represent feature controls normally associated with the non-computer system device. Feature controls can be internal or external to the device and are used to control and monitor the operation of the device. Typical feature controls include, but are not limited to, volume controls, channel selectors, power switches, input and output meters, etc. For example, if the non-computer system device is a

music amplifier, the type of feature controls normally associated with the music amplifier may include an on/off switch, an input meter, and a volume control.

In particular, Warman teaches displaying a template visual device control that graphically represents a hypothetical feature control of the type normally associated with a hypothetical non-computer system device. The template visual device control taught by Warman provides only a graphical representation of a hypothetical feature control of a hypothetical non-computer system device. Nowhere does Warman teach providing an inventory of visual component objects, wherein each of the visual component objects defines the visual representation, operations, and data for a system component, wherein the system component can be an actual computing device, non-computing device, or software applications. Nor does Warman teach the template visual component may be decomposed into one or more sub-template visual components.

In Warman, a conventional graphical control device such as a mouse or a trackball may operate a visual device control, which in turn causes the computer to send messages to the corresponding device interface. The device interface then causes the non-computer system device to respond in the same way that the device would have responded to the menu or electronic operation of the equivalent feature control. Hence, when a change occurs in a visual device control, the change is communicated to an intermediate hardware device such as the computer. The intermediate hardware device then relays the change to the corresponding device interface for the non-computer device that the visual device control is associated with. Warman does not teach or suggest that, when a first visual component is being modified to generate a change, the change is communicated to a second visual component, which then effectuates the change in the second visual component, as recited in Claim 20 of the present application and discussed more fully below.

B.   Summary of Humpleman

Humpleman purportedly discloses a method and system for commanding and controlling a plurality of devices via a network. In essence, Humpleman discloses connecting a first device and a second device to a network. The second device stores application interface description data in a structured format. The application interface description data is used by devices in the network to command and control the second device. For example, Humpleman discloses providing the application interface description data to the first device over the network. The first device then utilizes the application interface description data to control the operation of the second device by sending control and command data to the second device over the network.

Humpleman discloses that the application interface description data may include remote procedure call information for the first device to control the operation of the second device. Humpleman also discloses that the application interface description data may include capabilities data for identifying the capabilities of the second device. The application interface description data can be stored in a structured format such as XML format. Preferably, each of the plurality of devices connected to the network contains application interface description data in the structured format for commanding and controlling of the device by one or more other devices connected to the network.

In summary, Humpleman discloses commanding and controlling devices via a network by allowing a first device to control and command a second device through utilizing application interface description data associated with the second device. Nowhere does Humpleman teach or suggest the subject matter disclosed by applicants' invention. For example, nowhere does Humpleman teach or suggest providing an inventory of visual component objects, each of which defines the visual representation, operations, and data for a system component, and each of

MLTC\17992AM1.DOC

which can be instantiated into a configurable and decomposable visual component, as recited in Claim 1 of the present application and discussed more fully below.

III.   Rejections of Claims

    A.   Claim Rejections

The Office Action rejected Claim 23 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. The Office Action alleges that the subject matter of Claim 23 was not described in the patent specification in a way as to reasonably convey to one skilled in the relevant art that applicants, at the time of filing the patent application, had possession of the claimed invention. Specifically, the Office Action alleges that the patent specification fails to disclose the association between a target decomposable visual component and a computing device. See Office Action, page 2.

As applicants pointed out during the telephone interview, and as agreed to by the Examiner, a target decomposable visual component is a decomposable visual component ("DVC"). In the patent specification, applicants specifically state that, "The DVCs may be related to system elements such as **computing devices**, non-computing devices and software applications or programs that may be controlled by, observed by and/or manipulated by the DVCs." Therefore, applicants' specification discloses that a target decomposable visual component may be related to a computing device. Therefore, the subject matter disclosed in Claim 23, wherein the target device associated with a target decomposable visual component is a computing device, was sufficiently disclosed in the patent specification of applicants' patent application. Therefore, the rejection of Claim 23, under 35 U.S.C. § 112, first paragraph, should be withdrawn.

-12-

MLTC\17992AM1.DOC

B.   Rejections of Independent Claim 1 and Its Dependent Claims 2-19 Under 35 U.S.C. § 103(a)

The Office Action rejected independent Claim 1 and its dependent Claims 2-19 under 35 U.S.C. § 103(a) as being unpatentable over Warman in view of Humpleman. Specifically, the Office Action alleges that Warman teaches visual component templates and Humpleman teaches a library of visual components, and that Warman and Humpleman combined teach the subject matter recited in Claims 1-19. As discussed during the telephone interview, applicants' invention is distinguishably different from the teachings of the cited references, taken alone or combined. To further clarify the differences between applicants' invention and the cited references, applicants have amended the claims according to the proposed amendments discussed during the telephone interview. The amendments clarify claim terms with information disclosed in the patent specification so to further distinguish applicants' invention from the cited references. As the following discussion shows, the cited references, taken alone or combined, fail to teach subject matter recited in the amended independent Claim 1, from which Claims 2-19 depend.

In its amended form, Claim 1 reads as follows:

> 1.   A method of creating a decomposable visual component representing a system component in a visual networking operating system, the method comprising:
>
> providing an inventory of visual component objects, wherein each of the visual component objects defines visual representation, operations, and/or data concerning a system component and is decomposable into one or more visual component objects;
>
> instantiating the decomposable visual component from at least one of the visual component objects; and
>
> configuring the decomposable visual component while the decomposable visual component is operating.

MLTC\17992AM1.DOC

Therefore, as amended, Claim 1 recites providing an inventory of visual component objects, each of which defines the visual representation, operations, and/or data concerning a system component is decomposable. For example, the patent specification (pages 13-15) of applicants' invention discloses five exemplary visual component objects: a window object, a visual reference object, a value control element object, a system element object, and a packet object. Specifically, a window object contains the data and methods necessary for displaying a window on a computer display. The visual reference object contains the methods and data necessary for generating visual representation of a decomposable visual component of a window object. The value control element object contains the value represented by a decomposable visual component and the methods for manipulating that value. A system element object contains the methods and data for communicating with a particular type of system element and for managing a graphic control display of that system element. A packet object contains the method and data for communicating data between a system element and a user interface device.

In addition, as disclosed in the patent specification, visual component objects can be combined to compose simple or highly complex decomposable visual components. Further, intermediate complex decomposable visual components can be created and stored as visual component objects, which may in turn be used to create more complex decomposable visual components.

Therefore, in applicants' invention, a visual component object may include information defining the visual representation, operations, and/or data of a system component and may be decomposable into one or more less complex visual component objects.

The Office Action suggests that Warman teaches visual component templates. See Office Action, page 13, line 2. Applicants respectfully submit that the visual component templates taught by Warman are different from the visual component objects recited in

applicants' invention. In the portions of Warman (Col. 24, lines 7-33; Col. 30, lines 42-56; Col. 37, lines 46 through Col. 38, line 18) cited by the Office Action, Warman teaches a visual component template that only graphically represents a hypothetical feature control of a hypothetical non-computer system device. Nowhere does Warman teach that the visual component templates define not only visual representation, but also operations and the data concerning a system component. Furthermore, nowhere does Warman teach that the visual component template is decomposable into one or more visual component templates.

In addition, the Office Action correctly concludes that Warman fails to teach a library of visual components. However, the Office Action incorrectly concludes that Humpleman makes up such a deficiency. See Office Action, page 3 and page 13. Applicants have been unable to locate any pertinent subject matter in the portions of Humpleman (Col. 7, lines 55-59; Col. 15, lines 29-41; Col. 17, lines 7-29; Col. 21, lines 3-20) referenced in the Office Action. In these portions of Humpleman, Humpleman teaches a command language interface and a library of **commands**, wherein the commands can be utilized by a device to send and receive information. Nowhere does Humpleman teach providing an inventory of **visual component objects**, as in the manner recited in Claim 1. As known by those of ordinary skill in the art and as described in applicants' patent application (page 6, line 17 through page 7, line 3), an object, i.e., an instance of a class, is a discrete entity containing both methods and data defining behavior of the entity. In the context of applicants' invention, a visual component object defines the visual representation, operations, and/or data for a system component and is decomposable. On the contrary, Humpleman teaches a library of commands that a device may utilize to send and receive information for providing its service. See Humpleman, Col. 7, lines 55-59. As known by those of ordinary skill in the art, a command is an instruction to a computer program that, when issued, causes an action to be carried out. Thus, a command is not an object, not to say a

visual component object as in the manner recited in Claim 1. Therefore, Humpleman does not teach an inventory of visual component objects, each of which defines the visual representation, operations, and data for a system component and is decomposable.

Therefore, the cited references, taken alone or combined, do not teach the subject matter recited in independent Claim 1. Applicants thus respectfully submit that the rejection of Claim 1 should be withdrawn and Claim 1 is in condition for allowance. As a result, Claims 2-19, the claims that directly or indirectly depend from Claim 1, are submitted to be in condition for allowance for the same reasons that Claim 1 is in condition for allowance.

C.   Rejections of Claims 20-28 and 30-40 Under 35 U.S.C. § 102(b)

The Office Action rejected Claims 20-28 and 30-40 under 35 U.S.C. § 102(b) as being anticipated by Warman. Applicants respectfully disagree.

In its present form, Claim 20 reads as follows:

> 20.   A method for controlling a target decomposable visual component within a visual networking operating system, the method comprising:
>
> depicting a control decomposable visual component;
>
> enabling a user to modify said control decomposable visual component so as to generate a change in a first value;
>
> communicating the change in said first value to the target decomposable visual component;
>
> the target decomposable visual component detecting the change in said first value and effectuating a change in a second value; and
>
> said change in said second value effectuating a change in the target decomposable visual component.

Claim 20 clearly recites **two different** decomposable visual components: a control decomposable visual component and a target decomposable visual component. Applicants have

MLTC\17992AM1.DOC

not been able to find any pertinent subject matter in the portions of Warman (Abstract; Figures 1, 4, 6, 12 and 14-16; Col. 12, lines 5-29; Col. 24, lines 7-33; Col. 30, lines 42-56; Col. 37, line 46-Col. 38, line 18) cited by the Office Action. In these portions of Warman, as exemplified by the description in Col. 12, lines 5-29 in Warman, Warman teaches that a change in a value represented by a visual component may be resulted by a user manually operating the visual component. Warman teaches that the change in the value is then communicated to a personal computer so the visual component may be updated to reflect the change in the value. Therefore, Warman teaches communicating the change in a value of a visual component to an intermediate hardware device such as a personal computer, which then causes the visual component to be updated to reflect the change in the value. Nowhere does Warman teach communicating a change in value of a visual component to another visual component, i.e., a target visual component. Secondly, as described above when discussing the rejection of Claims 1-19, Warman does not teach a decomposable visual component. However, Claim 20 clearly recites a control decomposable visual component and a target decomposable visual component.

As a result, Warman does not teach the subject matter recited in independent Claim 20. Applicants thus respectfully submit that the rejection of Claim 20 was in error and Claim 20 is in condition for allowance. As a result, Claims 21-36, the claims that directly or indirectly depend from Claim 20, are submitted to be in condition for allowance for the same reasons that Claim 20 is in condition for allowance.

Claim 37 recites a computer readable medium containing computer executable instructions for performing any of the methods recited in Claims 1-19. Therefore, Claim 37 is submitted to be allowable for the same reasons that Claims 1-19 are allowable. Similarly, Claim 39 recites a computer apparatus operative to execute instructions for performing any of the

MLTC\17992AM1.DOC

methods of Claims 1-19. Therefore, Claim 39 is submitted to be allowable for the same reasons that Claims 1-19 are allowable.

Claim 38 recites a computer readable medium containing computer executable instructions for performing any of the methods recited in Claims 20-36. Therefore, Claim 38 is submitted to be allowable for the same reasons that Claims 20-36 are allowable. Similarly, Claim 40 recites a computer apparatus operative to execute instructions for performing any of the methods of Claims 20-36. Therefore, Claim 40 is submitted to be allowable for the same reasons that Claims 20-36 are allowable.

D.   Rejection of Claims 2 and 29 Based on Official Notice

In rejecting Claims 2 and 29 under 35 U.S.C. § 103(a) as being unpatentable over Warman, the Office Action asserts Official Notices indicating that the use of scripts to control an application or utility is well known in the art. According to MPEP 2144.03, applicants respectfully traverse such an assertion of Official Notice and request that the Examiner provide evidentiary support for using Official Notice as a ground for rejection of Claims 2 and 29.

CONCLUSION

In view of the foregoing comments, applicants respectfully submit that all of the claims in this application are clearly allowable in view of the cited and applied references. Consequently, early and favorable action allowing these claims and passing this application to

MLTC\17992AM1.DOC

issue is respectfully solicited. If the Examiner has any remaining questions, the Examiner is invited to contact applicants' attorney at the number set forth below.

Respectfully submitted,

CHRISTENSEN O'CONNOR
JOHNSON KINDNESS^{PLLC}

Joy Y. Xiang
Registration No. 55,747
Direct Dial No. 206.695.1607

I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid and addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the below date.

Date: _January 6, 2006_   _Patricia A. Hubble_

JYX:pg

LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS^{PLLC}
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

-19-

MLTC\17992AM1.DOC